

PAUL NEEDHAM

I FRUITFUL DOUBTS, MAY–JUNE 2012¹

In the summer of 2005 the New York antiquarian book firm Martayan Lan acquired from an Italian book dealer, Marino Massimo De Caro, a highly unusual copy of the first edition of Galileo's *Sidereus nuncius* (Venice, 1610, quarto). The copy is bound in seventeenth-century Roman gold-tooled limp vellum, being the first of five tracts in the volume. The remaining constituents are individual parts of the Bologna 1655 collected edition of Galileo's writings, for which each tract was given its own title-page. In two places, this copy of *Sidereus nuncius* bears the ownership stamp of Prince Federico Cesi (1585–1630), founder of the Accademia dei Lincei, whom Galileo first met when he journeyed to Rome in the spring of 1611 and was inducted into the academy. On the title-page is an inscription, "Io Galileo Galilei f.", to be interpreted as "I Galileo Galilei made this." For brevity, this copy will be called SNML.

Besides typography and woodcut material – initials, headpieces and diagrams – *Sidereus nuncius* contains four etchings (one repeated to make five illustrations) that depict the moon in different phases, closely keyed to Galileo's text. The etchings were printed separately from the typesetting. After all the typographic printing was completed, the sheets needing moon depictions had to be run a second time under a rolling press, with the etched plates carefully positioned in the bed of the press to line up with spaces on the pages left blank for that purpose by the typographic compositor. It is possible, and even probable, that this rolling press was not in the typographic printer's shop, but rather in that of some Venetian printseller. Something over ninety copies of the first edition of *Sidereus nuncius* have been recorded, and of these, about a dozen have blank spaces on these pages: that is, the etchings were not printed onto them by the second operation. There is strong reason to believe that these "blank" copies were originally packed up as part of a larger shipment of unbound copies that the book's publisher, Tommaso Baglioni, sent to Frankfurt in mid-March 1610, immediately after printing was completed, to be offered at the Spring book fair.²

The SNML copy is one of those that do not contain the etchings. In the blank spaces are, instead, ink and wash drawings which correspond closely to the respective etchings. These drawings were studied by Horst Bredekamp, who argued in his 2007 monograph "Galileo the Artist" that they are in Galileo's autograph, prepared as models for the etchings.³ SNML

1 Although the two chapters following are presented under one name, it must be emphasized that they report on the combined researches of both the named author and of Nick Wilding, who initiated the course of "fruitful doubts" described here. It is published in this form with his permission.

2 Paul Needham, *Galileo Makes a Book* (Berlin: Akademie Verlag, 2011), pp. 198–99.

3 Horst Bredekamp, *Galilei der Künstler* (Berlin: Akademie Verlag, 2007), chapter VII.

was subsequently studied by Paul Needham, who argued that as a piece of printing it is a collection of proofs, representing the earliest surviving state of the type-pages. For example, several damaged types in *SNML* appear to have been replaced, before the print run that produced the other surviving copies, by undamaged characters. Of special significance seemed to be page A3v, part of Galileo's dedication to the Grand Duke of Tuscany, Cosimo de' Medici, where three successive correction states can be identified. In the first state, there is a damaged type at the end of line 1 and a typographical error in the catchword (*inum* instead of *nium*). In the second state the damaged type in line 1 was replaced by an undamaged one, but the catchword remained uncorrected. That is, the printing of this sheet was paused when the error was noticed, the forme of type (four type-pages locked up together, printing one side of sheet A) was loosened, the damaged letter was replaced, the forme was locked tight again, and printing continued. In the third state, the erroneous catchword was corrected by the same process. The surviving copies of *Sidereus nuncius* thus incorporate, more or less randomly from copy to copy, any of three different states of sheet A, and we know the sequence of the states. *SNML* shows the earliest state of this page, with both line 1 and catchword uncorrected: a state it has in common with only four other of the known copies.⁴ This interpretation of *SNML* as a proof copy seemed to give independent support to Bredekamp's analysis of the moon drawings in *SNML*, for Galileo, who moved from Padua to Venice to oversee production of *Sidereus nuncius* in the winter of 1610, would have been the obvious figure to have retained proofs of his book.

Needham's *Galileo Makes a Book* was published in September 2011, as the second volume of a two-volume set edited by Horst Bredekamp, *Galileo's O*. About seven months later, a bizarre series of seemingly tangential events centered in Naples turned out to impinge on *SNML*, and to force a re-evaluation of its every feature. In December 2011 the Italian cultural minister Lorenzo Ornaghi had confirmed Marino Massimo De Caro as director of the state-owned Biblioteca Girolamini in Naples. The Biblioteca Girolamini was founded in the later sixteenth century at the house of the Oratorian Fathers in Naples and from its beginning was accessible also to the public, more or less as the Neapolitan sister of the Oratorians' beautiful Biblioteca Vallicelliana in Rome. In the eighteenth century the library had been frequented and favored by the political philosopher Giambattista Vico. In March 2012 a professor of art history in Naples, Tomaso Montanari, visited the Girolamini to consult certain books, and discovered that the entire library was in disarray. Hundreds of books were dumped haphazardly on the floors, and Montanari heard rumors that many more books had been carted away secretly at night. Montanari witnessed the new director's German Shepherd dog, named Vico, roaming the rooms and befoiling them freely. Montanari wrote about the dire situation of the library and of the suspicions surrounding it in the newspaper *Il Fatto Quotidiano*, and his account caught the notice of dozens, then hundreds and more, of widely respected Italian scholars and intellectuals, who in April 2012 petitioned for a proper investigation.

Meanwhile, in Munich, the auction house Zisska & Schauer had scheduled an auction for 9 May 2012 which offered for competitive bidding hundreds of valuable books, particularly in the history of science, of unspecified but obvious Italian provenance. Among

4 *Galileo Makes a Book*, chapter XIII, "The Martayan Lan Proof Copy."

these was lot 530, a copy of the first edition of *Sidereus nuncius*. This copy caught Needham's attention: first, because it was almost certainly not one of the copies already on the census he had recently published in *Galileo Makes A Book*; and second, because several of the images in the auction house's online catalogue suggested, although this was not a topic the catalogue explored, that this was a fine-paper copy. One result of the research that went into *Galileo Makes a Book* is the recognition that a separate issue of *Sidereus nuncius* had been printed on finer paper with a different watermark from the ordinary-paper copies, and that these were Galileo's personal copies, intended for his presentations to various secular and ecclesiastical dignitaries. The published census lists nine such fine-paper copies. In early 2012 a dealer had shown to Needham, for just a few minutes, a tenth copy but there had not been opportunity to write down a single note about it. The copy coming up for sale in Munich would be the eleventh. Needham's colleague Dr. Bettina Wagner of the Bayerische Staatsbibliothek agreed to examine this copy in the offices of Zisska & Schauer, and she reported that it was indeed printed on fine paper. Lot 684 in the Munich sale was another famous Galileo rarity, a copy of his *Operazioni del Compasso*, printed in Padua, 1606, in an edition of only sixty copies according to Galileo's preface, and intended for sale to those who came to Padua be instructed in the use of his specially developed calculating device, a "military" compass.

The day before the Munich sale, the auction house announced that several hundred lots, including the *Sidereus nuncius* and the *Compasso*, had been pulled from the sale, pending the resolution of concerns about proper ownership. Book trade rumors soon suggested that the withdrawn lots were the property of the Biblioteca Girolamini. Later in May, Italian newspapers, who by now were hounds on the trail of all matters De Caro, reported that hundreds more rare books from the Girolamini library had been recovered by the police from a warehouse in Verona, where De Caro had his personal residence. This and other evidence led to a criminal process against De Caro. In March 2013 he was sentenced to a seven year jail term for massive theft of books from the library that had been entrusted to his care by government appointment less than two years before.

On Wednesday 9 May 2012 Needham received an e-mail from Nick Wilding, historian of science at Georgia State University, reporting on Zisska and Schauer's removal of numerous lots from their sale, "including the two Galileos, because of doubts concerning their provenance." Wilding reported the rumor that the doubtful books "might have come from De Caro, former director of the Girolamini library in Naples, and under investigation for embezzlement. He also supplied, I think, the two fake *Operazioni* and the Martayan Lan *Sidereus Nuncius* ...". Needham was in southern California this week working on a project unrelated to Galileo, and was not able to reply until the next day: "from Calif., not in a library, borrowed computer. I don't know any of the story – I did make a note on the copy [of *Sidereus nuncius*] last week or week before, but since have heard less than you. Have never heard of De Caro (or am I forgetting his name) ...".

This last vague remark reflects what only gradually came back to mind. A little over three years earlier, a New York bookdealer had brought up De Caro's name to Needham as that of a somewhat dubious figure, who had an uncanny way of turning up longtime book rarities that specific collectors had been wanting. Needham had not written down the name, or paid closer attention, but he now recalled an odd aftermath. A few weeks after this sidewalk

conversation the dealer called and said, without explanation, that he retracted his remarks. As for the “two fake Operazioni” that Wilding cited, this referred to something of which, again, Needham had only peripheral knowledge. Around 2004-2005 two copies of the *Operazioni del Compasso*, that book which by Galileo’s own statement had been printed in only sixty copies, had come onto the market. The buyer of one of them then began to doubt its rightness, and several investigators including a conservator at the Folger Shakespeare Library, J. Franklin Mowery, had been able to assemble both of the “new” copies and compare them directly with the copy in the Lessing J. Rosenwald collection of the Library of Congress, bound in contemporary vellum and manifestly correct. Mowery’s report on the comparisons presented convincing arguments that the “new” copies were new indeed: they were recent fabrications that in various ways had been doctored to invest them with an antique aura.

Later the same day (Thursday, 10 May) Wilding, also away from home base, wrote back to Needham, bringing him up to date on many dubious events in the book world of recent years in which De Caro had been or seemed to have been a pivotal figure. One of these events concerned a copy of *Sidereus nuncius* different from the *SNML* copy. Wilding reported that a copy with “peculiar” etchings had been in De Caro’s hands in 2005. It had been exhibited at a book fair in Milan in Spring 2005 and described as complete, but then “this [copy] is finally described by Christie’s in 2005 as supplied with images in facsimile on the original pages. It doesn’t sell, and disappears.” Wilding concluded: “You can see now why I’m so skeptical of the [SNML] – its provenance is simply awful.”

At this time Wilding and Needham had never met, but they had exchanged e-mails since November 2009, discussing and sharing information on a variety of Galilean topics. Earlier in 2012 Wilding had published a brief review of *Galileo’s O*, in which he maintained a skeptical stance about the central thesis that the supplied moon drawings in *SNML* were from Galileo’s hand, and was also unconvinced of the authenticity of the Galileo signature on the work’s title-page.⁵ In e-mail correspondence with Needham in the preceding months Wilding had raised doubts about another point: the authenticity of Cesi’s ownership stamp, as found on the title-page and on p. 8r of *SNML*, and in various other rare history of science books that had come into the market in surprising quantity in recent years. As Wilding wrote in his review, “[this stamp] differs in several respects to well-authenticated instances of the same stamp ... Neither is the Sidereus included in either of the extant inventories of Cesi’s library drawn up after his death ...”. Needham’s reply on Friday 11 May, still from California, was defensive: “nothing of my arguments about the volume in general [that is, that it was a proof copy] rely on validity of the Cesi stamp. I believe the Galileo signature is authentic ...”. On the other hand, the reference to another copy of *Sidereus nuncius* – not on Needham’s published census – offered at auction but unsold, did catch his attention: “If you have a reference to the specific Christie’s 2005 sale let me know ... Otherwise I’ll search the Christie’s catalogue[s]; I don’t want to ask any bookdealers.”

5 Nick Wilding, [review of *Galileo’s O*], in: *Renaissance Quarterly* 65 no. 1 (Spring 2012), p. 217–218. Wilding noted the arguments against authenticity of the moon drawings presented earlier by Owen Gingerich: “The Curious Case of the M-L Sidereus nuncius,” in: *Galilaeana* 6 (2009), p. 141–165.

On Monday and Tuesday of the following week, 14–15 May, Needham and Wilding exchanged many e-mails, and Needham's opinion of the status of *SNML* changed within a few hours. On Monday morning (before coffee break, if that may be raised as partial excuse) he stated, "Re *SNML*, however: this is absolutely not a forged copy, nor is its binding tampered with in any way." But by early afternoon: "You've raised an important point, and now I'm worried about *SNML* as a copy ... I'm grateful to you for raising these questions, whatever problems come with them!" The change came when Wilding sent a picture of the title-page of that mysterious copy of *Sidereus nuncius* containing "facsimiles" of the moon etchings which had been offered at auction in 2005, which had failed to sell, and which by Wilding's information had originated with De Caro. (To clarify one small point: as Needham worked out a little later in the day, the copy had been offered not by Christie's but by Sotheby's New York, in their 30 November 2005 book sale, as lot 44, consignor not named.)

Wilding noticed, from the Sotheby's illustration of the *Sidereus nuncius* title-page, that in the imprint at the foot of the page the "V" in the word "VENETIIS" is tilted slightly backward; and that in the line below, "Superiorum Permissu, & Priuilegio.", the top loop of the ampersand appears to be closed up with ink, while the "P" of *Priuilegio* has a leftward stroke at the foot of the letter, rather like a very wide serif. The same features were to be seen on the title-page of the *SNML* copy. And, the title-pages of these two copies had other common features. Most conspicuously, in both these copies but apparently in no other, the word "periodis" on line 15 of the title was spelled "pepiodis," a peculiarity that Needham ought to have noticed and discussed in *Galileo Makes a Book*, but had overlooked.

Thus, judging from their title-pages, these two copies, brought onto the American book market at the same time from the same source, were twins to a degree that set them apart from all other copies. They were apparently two peas from one pod, and none of the other copies came from that particular pod. As for the skewed setting of the letter "V" in "VENE-TIIS", wider investigation showed this to be an authentic, if minute, variant in the surviving copies of *Sidereus nuncius*. In some copies the letter is skewed, in others it is locked tight in a vertical position. The apparently ink-clogged ampersand might reflect a similar situation. But the "heavy-serifed" P could not be explained in this way. As both Wilding and Needham realized, this "serif" gave the strongest indications of being a "modern" artifact. The heavy-serifed P, the skewed V, and the clogged ampersand (but not the spelling "pepiodis") all appear in the photographic facsimile of *Sidereus nuncius* published in Pisa in 1964 to commemorate Galileo's four-hundredth birthday: the "Domus Galilaeana" facsimile.

In a bypath of his book, Needham had studied this Domus Galilaeana facsimile in some detail, for he had noticed that its retouching errors had misled several scholars who took it to be an accurate representation of its source copy.⁶ In fact, even that source copy was a mystery. The Domus Galilaeana facsimile states the source explicitly: a copy in the Biblioteca Nazionale, Florence whose current shelfmark is Pal.22.B.5.55. However, *Sidereus nuncius* contains several typographic variants which differ from copy to copy, and Needham realized, while compiling his census, that this Florence copy could not truly have been the source of the Domus Galilaeana facsimile, for the variants do not match precisely. Why

6 *Galileo Makes a Book*, pp. 151–155, "Ghost Errors in the Jupiter-moon Diagrams".



Fig. 1: *Sidereus nuncius* title-page, last line, "Permissu, & Priuilegio".

a. SNML

b. Copy offered Sotheby's New York, 20 November 2005

c. Domus Galilaeana facsimile, 1964

d. Milano, Osservatorio astronomico di Brera copy (source copy of the Domus Galilaeana facsimile).

the facsimile's publisher stated that this was their source, formally thanking the director of the Biblioteca Nazionale for courtesies, is an unanswered mystery. In any case, to Needham, after many months of examining copies of *Sidereus nuncius* to record typographic variants, and of sending out questionnaires to unvisited collections for the same purpose (all responded to courteously and competently by librarians in twelve countries), the source copy of the Domus Galilaeana facsimile remained hidden. None of the recorded copies had the requisite "profile" of typographic variants. Only late in the day, as production of *Galileo Makes a Book* was well under way, did a "new" copy of *Sidereus nuncius* emerge, at the Osservatorio Astronomico di Brera in Milan. That copy has, uniquely, the exact typographic profile of the Domus Galilaeana facsimile. The librarian of the Milan observatory, Dr. Agnese Mandrino, sent full digital pictures of this copy, and from these images a multitude of additional specific features soon confirmed that this is the long-hidden source of the Domus Galilaeana facsimile.

Therefore, Needham was able to confirm immediately that Wilding's suspicion about the oddly printed P seen both in SNML and in the Sotheby's 30 November 2005 copy was well-founded: "In my [image] of the Milano copy, there is a 'blotch' in front of the P at just

this place, but it is not a printed blotch; rather, it is a light-coloured one, which must be a small flaw or peculiarity of the paper itself at this place. The anonymous photo-retoucher [sh]ould in principle have ‘whited out’ this blotch, as he did similar features throughout the Milano photographs. But he overlooked it; and when the printing plates were made, this light spot of the original became a dark line on the plate, and so was fully printed in black.” The “wide-serifed” P on the last line of the title-page of *SNML* became the solidest evidence that there must be something wrong with both *SNML* and the 30 November 2005 copy. The serif or blotch or line attached to this letter P must derive in some way from the 1964 *Domus Galilaeana* facsimile. In other instances studied by Needham, the retoucher, an anonymous craftsman employed by Fotolito Emiliana in Bologna where the facsimile was produced, had created deceptive errors by removing authentic printing (asterisks representing the moons of Jupiter) that to him must have looked like dirt on the pages. In this case, he made the opposite error: he treated as part of the letter P what was actually a paper flaw in the copy that was photographed. From the negatives on which he worked, he could not tell the difference between a strange serif and a paper stain.

In the following days Wilding and Needham exchanged numerous e-mails, and Needham made arrangements to go to New York City on Friday, 18 May, to examine *SNML* directly. In preparation, the two looked more closely at photographic images of various copies. One other peculiarity drew *SNML* close to the 30 November 2005 copy. Besides the title-page, the Sotheby’s catalogue reproduced in reduced size the unnumbered page D6r, whose upper portion contains a woodcut diagram of the stars of the Pleiades, as Galileo had discerned them with his new telescope. On this page, in all copies then known except *SNML*, the catchword at the foot is spelled “cētum”. That is, it is the word “coetum” (coetus: an assemblage [of stars]), but spelled with a “caudate e” rather than an “œ” character. In *SNML* the catchword is spelled “cetum”, that is without a caudate e, and Needham had treated this as a case where the (supposed) proof setting of *SNML* was changed from “e” to “é” before the main print run of the edition began: a “borderline correction.”⁷ But as the Sotheby’s illustration showed, the 30 November 2005 copy also has “cetum”, without caudate e. How likely could it be that two copies of *Sidereus nuncius*, both appearing on the market in 2005, and both in the hands of the same dealer, would have otherwise unique readings both on the title-page (*pepiodis*) and on another page of another sheet (*cetum*)?

On one matter Needham did not at the time fully grasp Wilding’s argument, and it was frustrating to the latter to have to rely on alien eyes for a judgment of this point. As both knew, the printing of *SNML* is deeply impressed, more so indeed than most other copies, and at an earlier stage, that had seemed to Needham to be a point in favor of its authenticity, for photographic facsimiles are commonly flat, without the “bite” into the paper that type-printing, pushed into dampened paper, creates. Wilding wrote, “Another thing to check – frequently the genuine copies have lightly inked marks from the furniture. In *SNML* these seem to have been either absent (strangely, given the heavy impression), and perhaps erased (see, for example, the top of A3r, which is generally quite heavily marked), or printed with too much definition (A4r), though the grey mark in the top left corner looks almost as though it’s added with pencil?” Needham replied, “Indeed I was planning to look closely at

7 *Galileo Makes a Book*, p. 178 and figure XIII.7.

the head and foot of every page. It's mostly not a matter of the furniture itself, but rather of the shoulders of the types picking up ink. Of course, the way you've worded it ... it's suspicious if there isn't inking, and suspicious if there's 'too much'. I'm reminded of the Three Bears." Wilding replied a half hour later: "The Three Bears joke doesn't address my point, which is that when printing from the plate there is no shoulder – it's black or white, not grey. The non-existence of all such marks in the *SNML* printing ... and their sudden appearance in the process of transfer to the new formes [of the main print run] is far stranger than my explanation, no?" Needham argued the matter further with a few statements that were not so much untrue as irrelevant. The nature of the printing impressions in *SNML* is indeed critical in judging the copy.

On Friday 18 May 2012 Needham personally examined *SNML*, bringing with him a number of prints of details from the Institute for Advanced Study copy of *Sidereus nuncius*, of which Princeton University Library's digital photographer, Roel Muñoz, had made very high quality images several years before. The results of the examination were, in Needham's mind, inconclusive, and he reported that evening to Wilding, "I was unable to find any feature of *SNML* that to my eyes indicated that it was printed from photographic plates." One particular statement is so opposite to later observations that it is almost as if a poltergeist had momentarily seized control of the keyboard: "particularly in the Jupiter-moon diagrams ..., the Jupiter O's and the four sizes of asterisk are consistently sharper in *SNML* than they are in the best available images from the I.A.S. copy."

More usefully, Needham reported on apparent "shoulder ink" on several pages of *SNML*: places above the top line of the page, or below the bottom line, where it appeared that the "shoulder" of the type, that is, its top or bottom edge, had picked up ink, and so left an impression on the page. Wilding wrote the next day, "while the the book is still fresh in your mind: when you saw the shoulder marks in *SNML*, did you notice whether they have the same depth of impression as the type and woodcuts, or did the ink just lie on the surface of the paper?", to which Needham replied, "As to the shoulder marks in *SNML*, yes, they were deeply impressed." This was a necessary clue for Wilding's visualization of *SNML*. As he wrote in a follow-up on Monday, 21 May, "Deep shoulder marks provide good evidence for the use of ... polymer plates. A cross-section of the polymer plate would look like canyons or castellations, quite unlike the hills and valleys of type, with its graduated and multileveled geography. In general in polymer prints imitating or replicating type, these features are undesirable, and removed. Where they are left, they leave an impression identical to that of characters in a way physically impossible with type. If one compares the protrusions on the reverse side of these marks with those of other copies, the difference is striking." Needham did not reply directly to this argument, and according to his memory it was not until the following morning that its point suddenly snapped into focus.

Although Needham had failed to see direct evidence that *SNML* was printed from plates and not movable types, he remained uneasy, especially because the "serifed" P on the title-page argued so forcefully that the *Domus Galilaeana* facsimile had been a partial source of *SNML*. Martayan Lan agreed that as a next stage of investigation Needham should return to New York and take *SNML* to Columbia University where it could be examined alongside Columbia's uncontested copy of *Sidereus nuncius*. This was arranged for Thursday 31 May. For the remainder of the week of 21 May, Needham and Wilding exchanged

only a few e-mails, and then came the Memorial Day weekend. On Monday evening, just returned to New Jersey from a family visit to the Adirondacks, Needham wrote, “I am extremely eager to place *SNML* and Columbia’s SN side by side on Thursday, and to look at them from as many angles as possible – and always keeping in mind your own good comments re the printing impressions; and, I can concentrate more carefully than I did week before last on the last two lines of the title-page, for instance. There is also a test re inner margin widths that I want to do thoroughly …”. Most of the Memorial Day weekend he had in fact been brooding about *SNML*, the mental complement to the black flies that proliferate in northern New York at that time of year.

On Thursday morning 31 May Needham took the train from Summit New Jersey to New York City, went to Martayan Lan’s shop in the East 50s, collected *SNML*, and carried it by taxi to the rare book reading room of Columbia University, where he had pre-ordered their copy of the *Sidereus nuncius*, a copy acquired many decades earlier by the historian of mathematics David Eugene Smith. Needham brought with him a list of points to tick off methodically. With the two copies placed side by side, one feature after another of *SNML* began to look suspicious, and within about twenty minutes Needham felt certain that *SNML* was a modern forgery. When he returned home that afternoon, after returning *SNML* to Martayan Lan, he drew together his notes into a statement and that evening sent it to Wilding: “A great many things became clear and I am now convinced that *SNML* is entirely a forgery, and that we have already in our hands sufficient evidence to make that argument.”

